

# Cloudless Slow Blackwell Climate Testing

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BLACKWELL — Scientists and researchers looking for information to help predict global climate change are missing one key ingredient this week.

Clouds.

Extensive experiments involving two airplanes — one flying several miles above the other — were scheduled this month. Weather records show this time of year typically is when cloudy skies prevail in this area, researchers said.

While waiting to leave from Blackwell-Tonkawa Municipal Airport, researchers gazed at clear skies. But they were optimistic that a front would bring good cloud formations.

The experiments have been conducted from the Blackwell airport during the last three weeks. Information about atmospheric conditions on clear days is necessary to compare it to data collected on cloudy days.

Experiments are to continue through possibly early November. The scientists have high-speed computers in a hangar and in a converted 40-foot truck trailer to record data. Now, they're ready for cloudy days.

Information is collected as two planes fly in a stacked formation. Their instruments are designed to collect data on the invisible and infrared light absorbed, reflected or transmitted through cloud layers.

Scientists study energy passing through the atmosphere between 1,500 and 50,000 feet.

Scientists hope to better understand the role of clouds in warming or cooling the Earth, said Dr. Francisco P.J. Valero, a scientist for the

project known as the Atmospheric Radiation Measurement Enhanced Shortwave Experiment.

"We hope by understanding this process better we will be able to be more accurate in forecasting," said Valero, who works for the Scripps Institute of Oceanography in San Diego.

The experiments are part of work at a climate research center about 15 miles away and funded mostly by the U.S. Energy Department.

The U.S. Southern Great Plains Cloud and Radiation Test Site, the first of its kind, is several miles southeast of Lamont.

The Lamont site continuously gathers weather data. During the next several years, instruments will collect and analyze information that will help determine effects, primarily of sunlight, radiated energy and clouds, on temperature, weather and climate.

Instruments analyze a slice of the atmosphere over northern Oklahoma and southern Kansas. The information will be examined many times to improve existing computer models that predict global climate change, said John Vitko, with Sandia National Laboratories in California and technical director of the experiment.

Plans call for another mission in the spring involving manned planes and newer unmanned planes which can reach altitudes of 65,000 feet, he said.

Researchers hope to use data collected to determine what amounts of sunlight reaching a cloud layer is reflected, absorbed and passed on to the Earth, Vitko said.